

IN THE CLAIMS

This listing of claims replaces all previous versions and listings of claims in the present application.

Claims 1-38 (Cancelled)

39. (Previously Presented) A fluid mixing device, comprising:

a cup defining a chamber;

a bluff body extending across and substantially closing one end of the chamber;

a first fluid inlet disposed at an opposite end of said chamber from said bluff body and arranged to direct a jet fluid flow into the chamber toward said bluff body;

a flow divider disposed in a region substantially surrounding said bluff body and extending from within said chamber to outside of said chamber;

at least one second fluid inlet to said chamber defined by said flow divider in said region substantially surrounding said bluff body and arranged to direct a fluid flow opposing the jet fluid flow into the chamber, and

at least one mixed fluid outlet from said chamber defined by said flow divider in said region substantially surrounding said bluff body,

wherein said bluff body includes an egress for releasing fluid from said chamber.

40. (Previously Presented) A fluid mixing device as claimed in claim 39,

wherein said egress includes material porous to said fluids forming at least part of said bluff body.

41. (Previously Presented) A fluid mixing device as claimed in claim 39,
wherein said egress includes one or more apertures extending through said bluff body.

42. (Previously Presented) A fluid mixing device as claimed in claim 41,
wherein said bluff body includes a centrally disposed aperture.

43. (Previously Presented) A fluid mixing device as claimed in claim 42,
wherein said first fluid inlet is directed substantially toward said centrally disposed aperture.

44. (Previously Presented) A fluid mixing device as claimed in claim 43,
wherein said aperture has a circular cross section.

Claims 45-46 (Cancelled)

47. (Previously Presented) A fluid mixing device, comprising:

a cup defining a chamber;

a bluff body extending across and substantially closing one end of the chamber;

a first fluid inlet disposed at an opposite end of said chamber from said bluff body and
arranged to direct a jet fluid flow into the chamber toward said bluff body;

a flow divider disposed in a region substantially surrounding said bluff body and extending
from within said chamber to outside of said chamber;

at least one second fluid inlet to said chamber defined by said flow divider in said region

substantially surrounding said bluff body and arranged to direct a fluid flow opposing the jet fluid flow into the chamber, and

at least one mixed fluid outlet from said chamber defined by said flow divider in said region substantially surrounding said bluff body,

wherein said flow divider has a corrugated profile so as to repeatedly cross said region surrounding the bluff body.

48. (Previously Presented) A fluid mixing device as claimed in claim 47,
wherein said chamber includes an outer wall extending substantially around the perimeter of said region surrounding the bluff body.

49. (Previously Presented) A fluid mixing device as claimed in claim 48,
wherein said corrugated profile alternately contacts the bluff body and said outer wall.

50. (Previously Presented) A fluid mixing device as claimed in claim 49,
wherein the geometric centers of the cross-section of each of the flow channels defined by said corrugated profile are alternately substantially closer to the outer wall and substantially closer to the bluff body.

51. (Previously Presented) A fluid mixing device as claimed in claim 50,
wherein the flow channels having cross-sections with geometric centers substantially closer to the outer wall form said second fluid inlets and the flow channels having cross-sections with

geometric centers substantially closer to the bluff body form said mixed fluid outlets.

52. (Previously Presented) A fluid mixing device as claimed in claim 47, wherein said corrugated profile is of triangular form so that said flow channels are generally triangular in cross section.

53. (Previously Presented) A fluid mixing device as claimed in claim 52, wherein at least alternate flow channels have substantially the same cross section size.

54. (Previously Presented) A fluid mixing device as claimed in claim 53, wherein said corrugated profile defines eight flow channels forming second fluid inlets each alternately interposed with eight flow channels forming mixed fluid outlets.

55. (Previously Presented) A fluid mixing device as claimed in claim 54, wherein the mixing device has eight-fold azimuthal symmetry about a longitudinal axis.

Claims 56-71 (Cancelled)